Vomiting, Diarrhea, and Constipation

Assumption

The student understands the anatomy, embryology, and physiology of the gastrointestinal tract. GI dysfunction can occur at any level of the gastrointestinal tract and can lead to vomiting, diarrhea, or constipation.

Goal

The student will be able to describe the initial management of a patient with vomiting, diarrhea, or constipation. The student will be able to name the major causes of vomiting, diarrhea, or constipation that are relevant to surgery, and develop a diagnostic and treatment plan for each.

Objectives

By the end of the core surgical clerkship, the student will be able to:

Vomiting

1. Discuss the differential diagnosis for benign and malignant causes of emesis.
2. Discuss the fluid and electrolyte abnormalities that may result from emesis.
3. Describe the common etiologies, signs and symptoms, and management of small bowel obstruction.

Diarrhea

1. Discuss the differential diagnosis of diarrhea in adults.
2. Compare and contrast the pathology, anatomic location and pattern, cancer risk, diagnostic evaluation, and management of ulcerative colitis and Crohn's disease.
3. Discuss the clinical manifestations, risk factors, diagnosis, and management of pseudomembranous colitis.
4. Outline the risk factors, presentation, diagnosis, and management of ischemic colitis.

Constipation

1. Discuss the potential etiologies of constipation in adults and children.
2. Describe the clinical presentation, etiologies, and management of large bowel obstruction.
3. Outline the staging and treatment of carcinoma located at different levels of the colon, rectum, and anus.
4. Describe the postoperative follow-up of patients with colorectal carcinoma.

Problems

1. A 54-year-old woman presents with a two-day history of crampy abdominal pain followed by episodes of bilious emesis. She had previously undergone hysterectomy for treatment of cervical cancer.
    a. What further data should be obtained from the patient's history?
    b. What findings should be looked for on physical exam?
    c. What laboratory tests/diagnostic imaging should be ordered?
    d. What is the initial management plan?
    e. What findings on physical exam or radiographic testing may warrant an urgent operation?

Vomiting, Diarrhea, and Constipation (continued)

Problems (continued)

2. A 72-year-old man presents with a two-month history of gradually increasing constipation.
   a. What further tests are indicated?
   b. What findings would be suggestive of carcinoma?

3. A mass is palpable on rectal exam.
   a. What further tests are indicated?

4. A six-week-old infant presents with projectile vomiting?
   a. What testing is required to confirm the diagnosis of pyloric stenosis?
   b. What electrolyte abnormalities can be expected?

Skills

1. Conduct a focused history and physical to include abdominal and rectal exam.
2. Demonstrate the ability to:
   a. Insert a nasogastric tube.
   b. Interpret abdominal x-rays and CT scan including small bowel obstruction versus ileus.
   c. Interpret abdominal x-ray to evaluate sigmoid versus cecal volvulus.

Teaching Hints

1. Review abnormal and normal abdominal x-ray series, upper GI with SBFT, barium enema, CT scan.
2. Alter case scenarios; include management of obstruction with strangulation.
3. Refer to endoscopic photos/videos (e.g., cancer, colitis, ischemia).

Vomiting

a. Consider timing and character of the emesis and associated abdominal pain.
b. Contrast etiologies in infants, children and adults.
c. Contrast dysmotility versus ileus versus mechanical obstruction.
d. Describe the clinical presentation and etiologies of gastric outlet obstruction.
e. Describe the types of neoplasms that occur in the stomach and discuss diagnosis and prognosis for each.
f. Discuss the principles of curative and palliative surgery for patients with gastric neoplasm.
g. Discuss the diagnosis and management of obstructive ulcer disease.
h. Discuss the potential complications and management of small bowel obstruction.
i. Outline the initial management of a patient with mechanical small bowel obstruction, including laboratory tests and x-rays.
j. Contrast the presentation and management of partial versus complete small bowel obstruction.
k. Differentiate the signs, symptoms and radiographic patterns of paralytic ileus and small bowel obstruction.

Vomiting, Diarrhea, and Constipation (continued)

Teaching Hints (continued)

Diarrhea

a. Consider chronicity, absence or presence of blood and associated pain.
b. Consider infectious, inflammatory and ischemic causes.

Constipation

a. Outline the diagnosis and management of colonic volvulus, diverticular stricture, fecal impaction and obstructing colon cancer.
b. Describe the presentation and treatment of colonic pseudo-obstruction.

Prevention

Discuss the following:

1. Indications for and methods of screening for colorectal carcinoma.
2. Use of surveillance endoscopy in ulcerative colitis.

Special Considerations

Consider the following:

1. Perforation of cecum in the face of left colon obstruction.
2. Presence of a fistula in a patient with inflammatory bowel disease.
3. Pediatric considerations including pyloric stenosis, bowel atresia, Hirschsprung disease.